

REMARKS

Applicants were in the process of pursuing an appeal that focused on claims 57, 65, and 73. However, applicants decided to make some further changes to claim 57 before pursuing an appeal. Thus, they have filed this amendment along with a Request for Continued Examination.

Claim 76 as now amended corresponds to claim 57, with the further clarification that the second cathode layer as well as the first cathode layer includes some solvent. Thus, during the layering step both layers include solvent, providing the benefit described in the specification (¶ 36):

It is believed that the residual solvent provides the partially dried layer with enhanced physical properties, e.g., flexibility, which enhances the ability of the layer to be laminated and calendered during fabrication....

Claim 57 (now 76) was rejected under 35 U.S.C. § 102(b) as anticipated by Chu, U.S. Pat. 5,582,623 ("Chu") and alternatively under 35 U.S.C. § 103(a) as obvious in view of Chu. Applicants request reconsideration of the rejection. Chu removes the solvent before laminating his electrode layers. In fact, Chu explains that making thin electrodes that are later laminated avoids the problem of slow drying. Specifically, Chu states (col. 14, lines 16-32):

Regardless of how the slurry film is applied, it should have a primary dimension, e.g., thickness, that allows for rapid drying. This thickness will, of course, depend upon such factors as slurry concentration and liquid volatility. In addition, the slurry film thickness should be chosen so as to produce electrodes of appropriate thickness for the ultimate battery application. For example, low power, high energy applications, such as batteries for pacemakers, may use thicker electrodes, e.g., up to a few millimeters. In contrast, high power applications, such as batteries for power tools or hybrid vehicles should employ thinner electrodes, e.g., no more than about 100 μm thick. It should be noted that electrodes of appropriate thickness for low power applications may be made by laminating two or more thinner electrodes. In this manner, the problem of slow drying associated with thick electrodes can be avoided.

Plainly, Chu wants to, and describes, removing the solvent before laminating. This is the opposite of the approach covered by claim 76 (as amended) -- leave some solvent to enhance the physical properties of the layers.

New independent claim 77 generally corresponds to dependent claim 65 prior to this amendment. Claim 77 is directed to making two-sided cathodes in which layers of cathode material are bonded to both sides of the current collector. The cathode layers on one side of the

current collector may be the same as or different from the cathode layers bonded to the other side. See ¶¶ 44 and 51. Claim 65 was rejected as obvious under 35 U.S.C. § 103(a) in view of Chu, but applicants request reconsideration of the rejection. Chu is concerned with a specific type of cathode material -- "active-sulfur-based materials". The cathodes disclosed by Chu including these materials are all single-sided and do not lend themselves, or suggest in any way, a double-sided design. See, for example, U.S. Pat. 4,833,048 and U.S. Pat. 5,162,175, referenced by Chu at col. 17, lines 39-45.

Finally, new independent claim 79 corresponds to dependent claim 73 prior to this amendment. Claim 79 requires blending the binder and solvent, blending the electrode active material and the conductive acid, combining the blends into a cathode mixture, and then coating the cathode mixture into the substrate. The significance of the pre-blending steps is discussed in the specification (¶ 31):

Referring to Fig. 1, the electrode material and the conductive aid are pre-blended (step 24) separately from the binder and the solvent, which are also pre-blended (step 26). Without wishing to be bound by theory, it is believed that pre-blending enhances contact between the electrode material and the conductive aid to provide enhanced electrochemical performance.

Claim 73 (now 79) was rejected under 35 U.S.C. § 103(a) as obvious in view of Chu. Applicants request consideration of this rejection. Chu does not disclose or suggest dissolving a binder in a solvent and then adding a pre-blended mixture of the electrode active material and the conductive aid. Chu certainly does not disclose that pre-blending the electrode active material and the conductive aid enhances the contact between the electrode active material and the conductive aid.

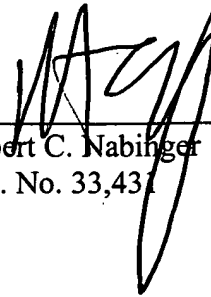
Applicants submit that the claims are in condition for allowance and such action is respectfully requested.

Please apply any other charges or credits to deposit account 06-1050.

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Respectfully submitted,



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